AMENDMENTS TO THE CLAIMS

Please amend claims 2 to 9 as indicated among the following complete set of pending claims:

Claim 1. (Canceled)

Claim 2. (Currently Amended) A method for ~~preprocessing~~ processing audio data ~~to be processed by a predetermined codec having variable coding rate~~, comprising the steps of:

classifying the audio data based on a characteristic of the audio data;

in case the audio data includes monophonic sound, performing ~~AGC (~~automatic gain control) (AGC) preprocessing of all frames_ of the audio data, wherein the AGC preprocessing enhances energy of all the frames ~~before the audio data is subject to the codec, such that said all frames are processed in the codec in a bit rate higher than the bit rate without the preprocessing~~; ~~and~~

in case the audio data includes polyphonic sound, performing AGC preprocessing of selected frames_ of the audio data, wherein the AGC preprocessing ~~before the audio data is subject to the codec, such that said selected frames are processed in the codec in the bit rate higher than the bit rate without the preprocessing~~ enhances energy of the selected frames;

determining a selected encoding rate from a plurality of encoding rates based on a characteristic of the AGC preprocessed audio data; and

encoding the AGC preprocessed audio data at the selected encoding rate with a codec having the plurality of encoding rates.

Claim 3. (Currently Amended) [[A]] The method in accordance with claim 2, wherein the step of performing AGC preprocessing of selected frames ~~include~~ includes deciding whether a frame in the audio data includes noise signal or not.

Claim 4. (Currently Amended) A method for ~~preprocessing~~ processing audio data ~~to be processed by a codec having variable coding rate~~, comprising the steps of:

deciding an interval of audio data that is to be encoded in a low bit rate in ~~said~~ a codec having a plurality of encoding rates; ~~and~~

adjusting the amplitude of audio data of the decided interval ~~before the audio data is processed by the codec, such that the audio data in the interval may be encoded in a bit rate higher than or equal to said low bit rate when processed by the codec~~;

determining a selected encoding rate from the plurality of encoding rates based on a characteristic of the amplitude adjusted audio data; and

encoding the amplitude adjusted audio data at the selected encoding rate with the codec.

Claim 5. (Currently Amended) [[A]] The method in accordance with claim 4, wherein the adjusting step comprises the steps of:

calculating signal levels of the audio data;

deciding smoothed gain coefficients based on signal levels; and

generating preprocessed audio data by multiplying the smoothed gain coefficients to the audio data in the decided interval.

Claim 6. (Currently Amended) An apparatus for ~~providing~~ processing audio data ~~to be encoded by a codec having variable encoding rate~~, comprising:

 means for encoding a signal at a plurality of encoding rates;

 means for deciding an interval of audio data that is to be encoded in a low bit rate by said means for encoding; and

 means for adjusting the amplitude of audio data of the decided interval ~~before the audio data is processed by the codec, such that the audio data in the interval may be encoded in a bit rate higher than or equal to said low bit rate when processed by the codec~~,

 wherein said means for encoding receives the amplitude adjusted audio data as the signal, determines a selected encoding rate from the plurality of the encoding rates based on a characteristic of the amplitude adjusted audio data and encodes the amplitude adjusted audio data with the selected encoding rate.

Claim 7. (Currently Amended) A method for ~~preprocessing~~ processing audio data ~~to be processed by a codec having variable coding rate, wherein the codec is capable of determining whether data fed to the codec is noise signal or not~~, comprising the steps of:

 deciding whether a frame in the audio data would be determined as noise signal when the audio data is encoded ~~processed~~ by ~~the~~ a codec having a plurality of encoding rates; and

 if it is decided that the frame ~~signal~~ would be ~~is~~ determined as noise signal, adjusting an amplitude of the frame ~~such that the adjusted frame is not determined as noise when processed by the codec~~;

 determining a selected encoding rate from the plurality of encoding rates based on a characteristic of the amplitude adjusted frame; and

 encoding the amplitude adjusted frame at the selected encoding rate with the codec.

Claim 8. (Currently Amended) A method for ~~preprocessing~~ processing audio data ~~to be transmitted through a transmission channel and then to be processed by a codec having variable coding rate~~, comprising the steps of:

deciding whether the audio data would be encoded in a low bit rate at a codec having a plurality of encoding rates;

if it is decided that the audio data would be encoded in the low bit rate at the codec, adjusting an amplitude of audio data;

transmitting the amplitude adjusted audio data to the codec ~~before the audio data is transmitted~~ through the transmission channel~~, such that the audio data is processed in the codec in a higher bit rate from the bit rate without the adjusting~~;

determining a selected encoding rate from the plurality of encoding rates based on a characteristic of the amplitude adjusted audio data; and

encoding the amplitude adjusted audio data at the selected encoding rate with the codec.

Claim 9. (Currently Amended) An apparatus for ~~preprocessing~~ processing audio data ~~to be~~ ~~processed by a codec having variable coding rate~~, the apparatus comprising:

      means for encoding a signal at a plurality of encoding rates;

      means for classifying the audio data based on the characteristic of the audio data;

      means for deciding an interval of the audio data that is to be encoded in a low bit rate in said means for encoding in case the audio data is determined to include polyphonic sound based on the classification; and

      means for performing ~~AGC (~~automatic gain control~~)~~ (AGC) preprocessing of all frames of the audio data ~~before the audio data is subject to the codec~~ in case the audio data is determined to include monophonic sound based on the classification, and performing AGC preprocessing of frames of the decided interval ~~before the audio data is subject to the codec~~ in case the audio data is determined to include polyphonic sound based on the classification,

      wherein said means for encoding receives the amplitude adjusted audio data as the signal, determines a selected encoding rate from the plurality of encoding rates based on a characteristic of the amplitude adjusted audio data and encodes the amplitude adjusted audio data with the selected encoding rate.

      ~~means for adjusting the amplitude of the audio data such that the audio data is~~ ~~processed in the codec in higher bit rate from the bit rate without the amplitude adjustment.~~